# Preparing the subtitles for the encoding process – PAL

In this chapter we are going to look how to prepare the subtitles so we can use them for the encoding process. This particular guide is for PAL-format DVD subtitles only. NTSC-format DVD subtitles need less steps to prepare and will be discussed in a separate chapter.

We need the following tools:

- IrfanView
- Subtitle Workshop
- Notepad

After you extracted the subtitles from the VOB (or SUB/IDX) file you ended up with a folder filled with .BMP files and 1 .SST file:
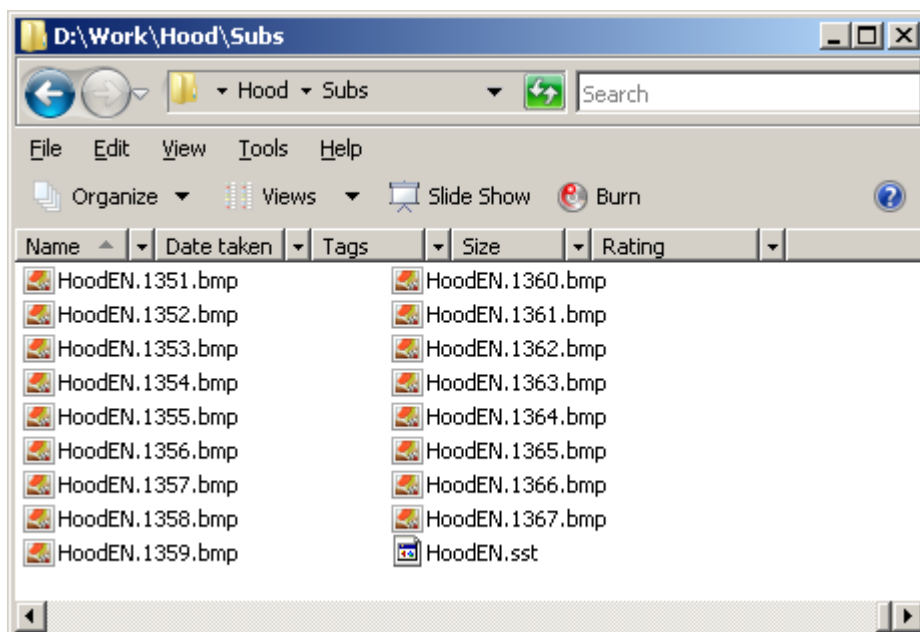

Each of the BMP files represents a subtitle, you can view them with any picture viewer. The SST file is a script file that can be read by Composer (after a few modifications, more about that later). It is a text file and you can open it in Notepad or any other editor.

As they are, none of these files are of any use in Composer, so we are going to make sure that they become useable.

First we're going to have a look at the BMP files. Composer cannot read BMP files, it requires TIF files, and not just any TIF files, they have to be 8-bit and uncompressed with a size of 720x480. Luckily what we have here, after the extraction with Subrip, are 8-bit, uncompressed BMP files with a size of 720x480! So we only have to convert them to TIF. I found that the easiest tool to do so is **IrfanView**. Let's start this tool…

After starting IrfanView select **Batch Conversion/Rename…** from the **File** menu
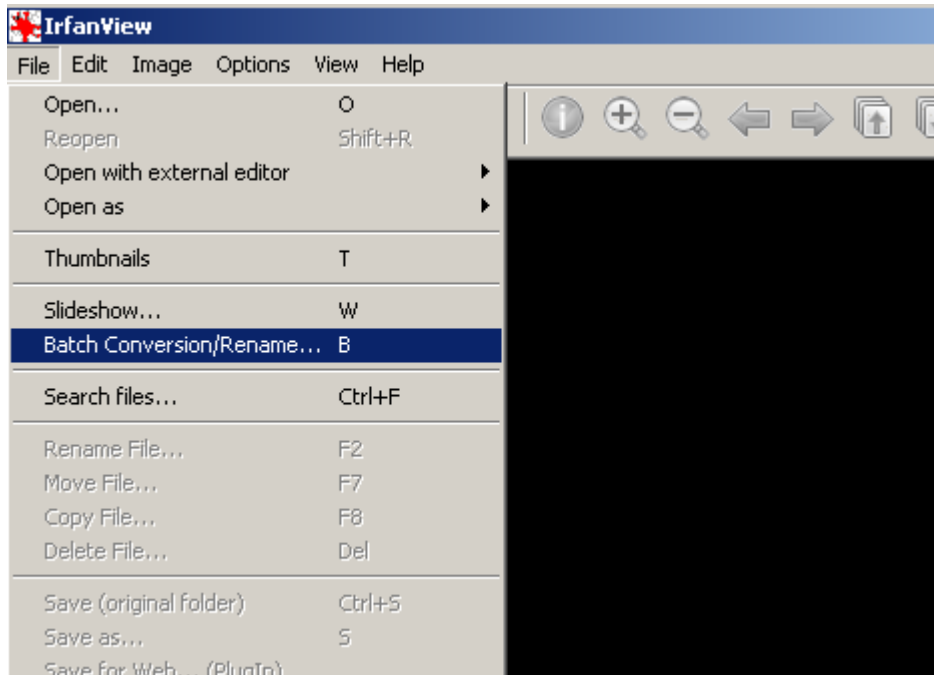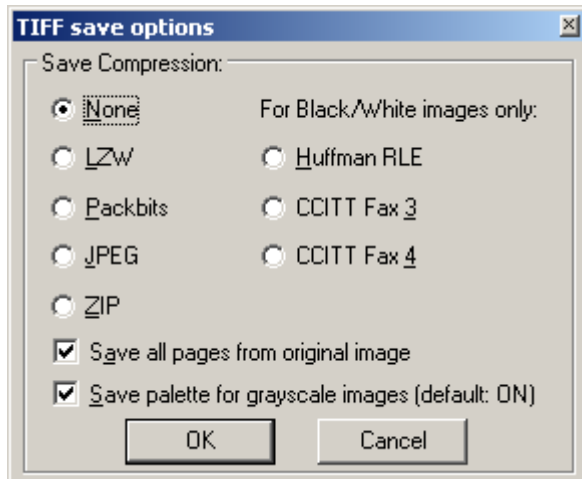

The **Batch Conversion** window opens…
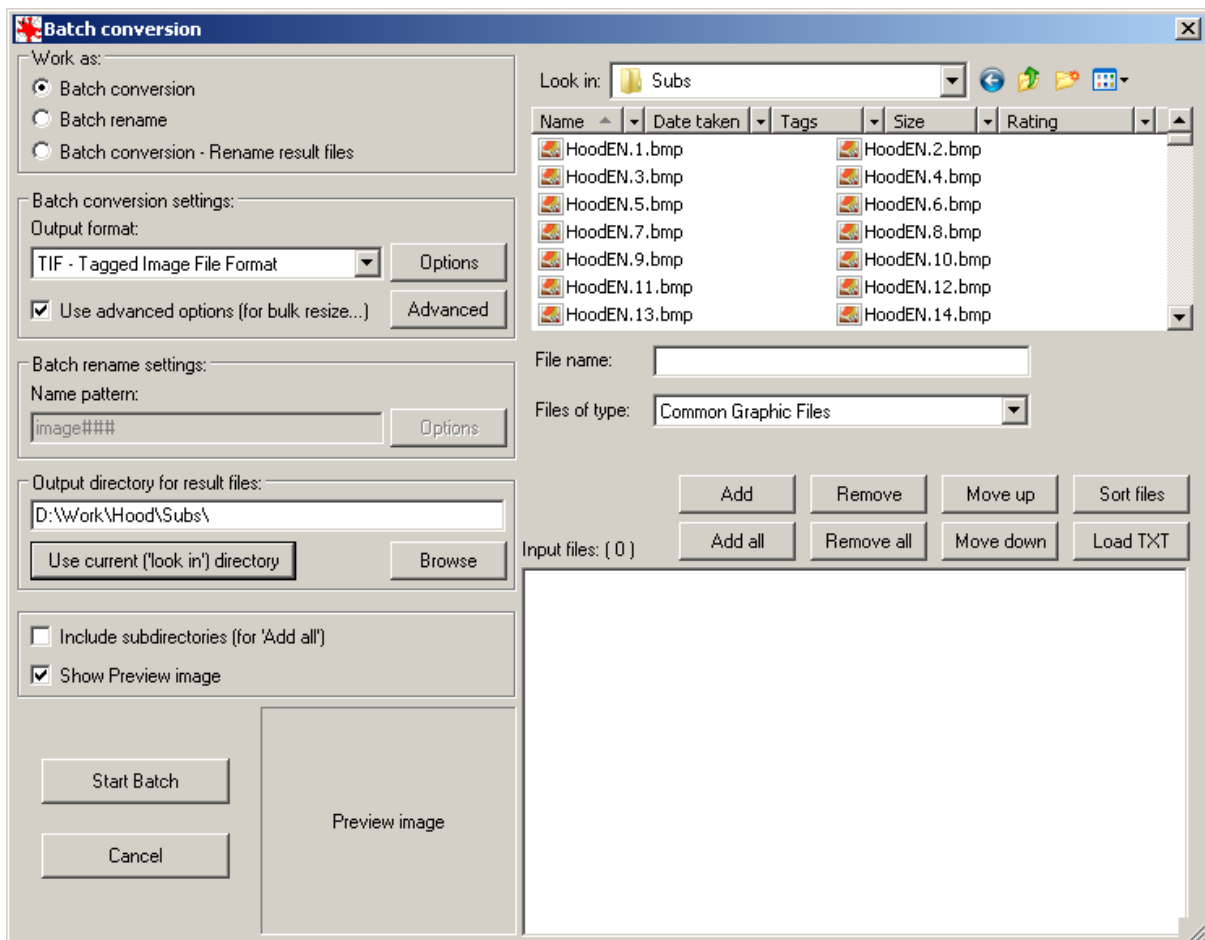
In the upper left half of the screen choose the following options:

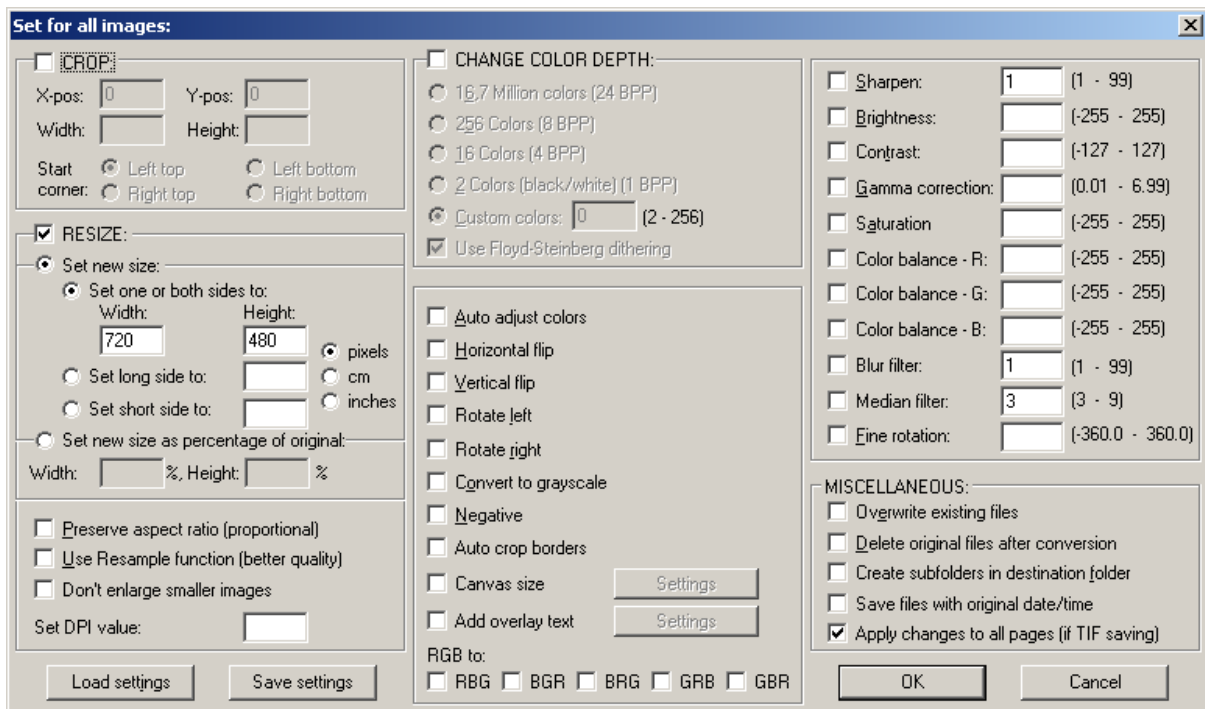**Work as** – select **Batch conversion**
Output format – select **TIF – Tagged Image Format**
Check the **Use advanced options (for bulk resize…)** checkbox

After selecting this output format click on **Options** and make sure the settings there are exactly as follows, then click **OK**.
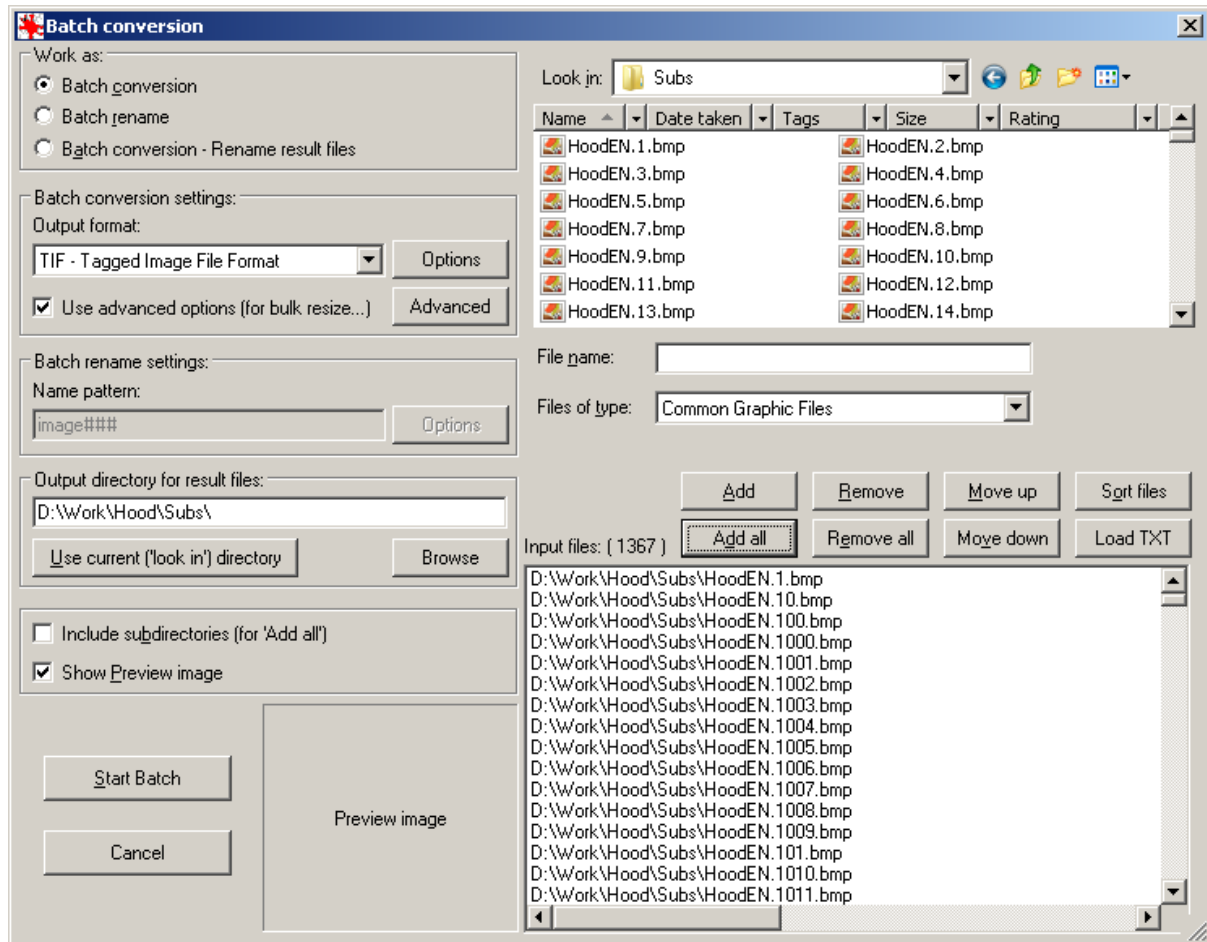

Click **Advanced**.

Check **RESIZE** and set the options as above, then click **OK**.

These are all the settings you need.

In the upper right half of the screen at **Look in**, select the folder with your BMP files and, then click **Add all**. They appear in the big field at the bottom half of the window.

On the left side click on the **Use current ('look in') directory** button to make sure that your converted files are saved in the same folder that currently holds the BMP files.

Once everything is set click **Start Batch** to get the conversion underway. You can follow the conversion in the status window that appears.
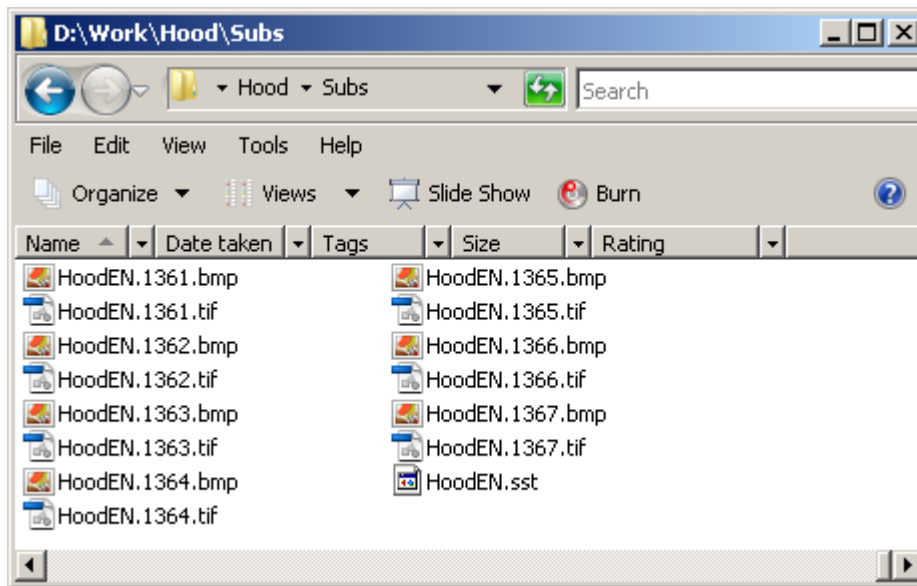

Once it finishes click **Exit**. You can now select the next folder for conversion. All the settings will be retained. Alternatively quit IrfanView.

You now have a folder with both BMP and TIF files.

The BMP files are no longer needed and can be deleted. A quick way to do so is via the command prompt.
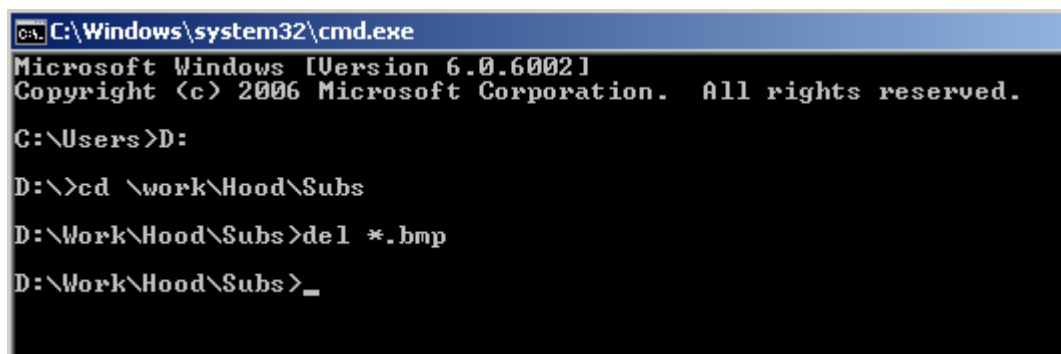
CD to the correct folder on your hard disk and there type **del *.bmp**.

All that is left are the TIF files and the SST file. We're now done with the images.
Time to have a look at the SST file…

You can open it in any editor. I prefer Notepad. By default it looks something like this…
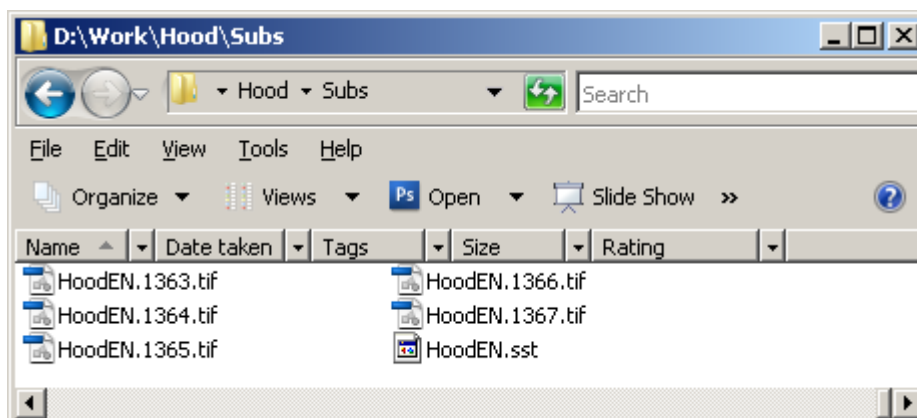
```
st_format       2
Display_Start   non_forced
TV_Type         PAL
Tape_Type       NON_DROP
Pixel_Area      (0 480)
Display_Area    (0 2 719 480)
E2              (255 0 0 ===)
E1              (0 0 0 ===)
PA              (0 0 255 ===)
BG              (255 255 255 ===)
Directory       D:\Work\Hood\Subs

#
# Palette entries:
#
# 01 : RGB(  0,  0,  0)
# 02 : RGB( 31, 31, 31)
# 03 : RGB(255,255,255)
# 04 : RGB(232, 65,  9)
# 05 : RGB(127,127,127)
# 06 : RGB(191,191,191)
# 07 : RGB( 21,190,244)
# 08 : RGB(235, 20,236)
# 09 : RGB(251,255, 28)
# 10 : RGB(  0,  0,113)
# 11 : RGB(  8,119,  8)
# 12 : RGB(116, 31,  3)
# 13 : RGB( 10, 97,122)
# 14 : RGB(118,  9,118)
# 15 : RGB(126,151, 12)
# 16 : RGB(255,255,255)
#

##########################################################
SP_NUMBER    START           END             FILE_NAME
Color        (1 1 3 1)
Contrast     (0 15 15 15)
1            00:00:12:19     00:00:15:05     HoodEN.1.bmp
2            00:00:19:06     00:00:22:01     HoodEN.2.bmp
3            00:00:22:06     00:00:23:05     HoodEN.3.bmp
4            00:00:23:10     00:00:25:22     HoodEN.4.bmp
5            00:00:26:02     00:00:30:11     HoodEN.5.bmp
etc.
```

Any line starting with **#** is a comment and can be deleted, I usually leave the long **###** line in though.

Every line below the long **###** line that does NOT start with a sequential number, or with **SP_NUMBER** can be deleted as well. In this case that would be these two lines:

Color   (1 1 3 1)
Contrast   (0 15 15 15)

Note that these lines, when they are repeated several times below the **###** line, can point to potential issues with the subtitles. I will discuss this in another chapter.

Now, the start and end times that you see at the bottom are actually PAL 25 fps times. We need NTSC 23.976 fps times as we converted the video and audio to NTSC as well. So before we do anything else we need to convert the SST file from PAL to NTSC. We do this with Subtitle Workshop.

After starting Subtitle Workshop make sure that the **Input FPS** field is set to **25**.
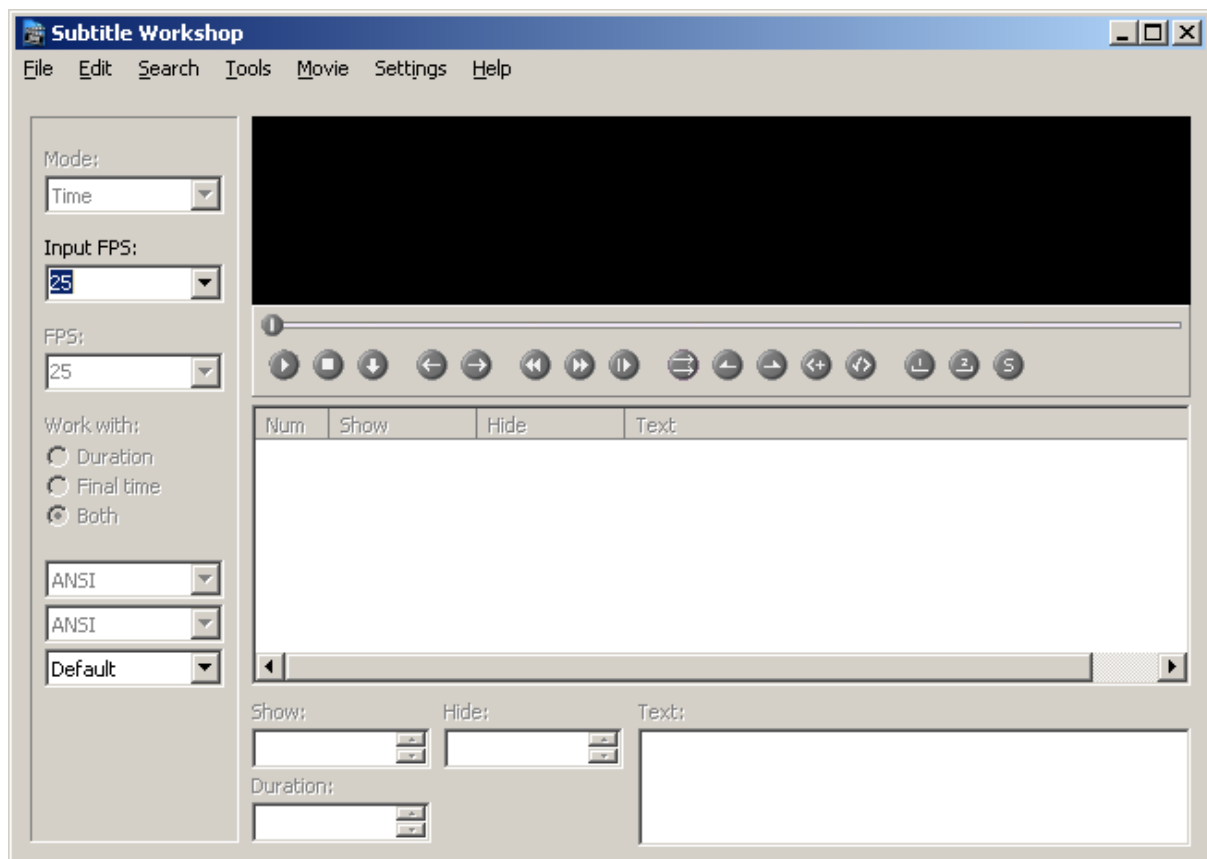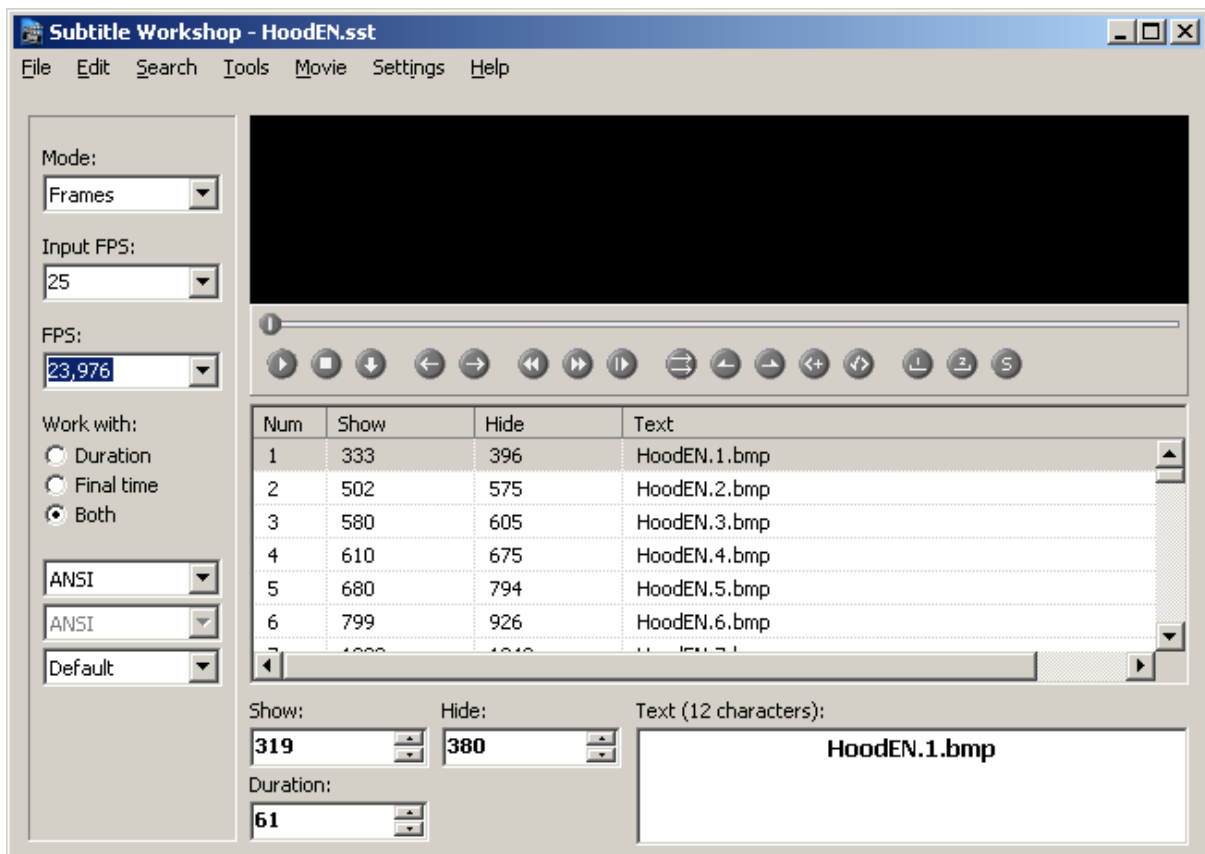

Then go to the **File** menu and select **Load Subtitle…** A new file window will open for selecting your source file. Navigate to your work directory and select the .SST file that is in the subtitle subfolder. In my case that would be **HoodEN.sst**. Then click **Open**.
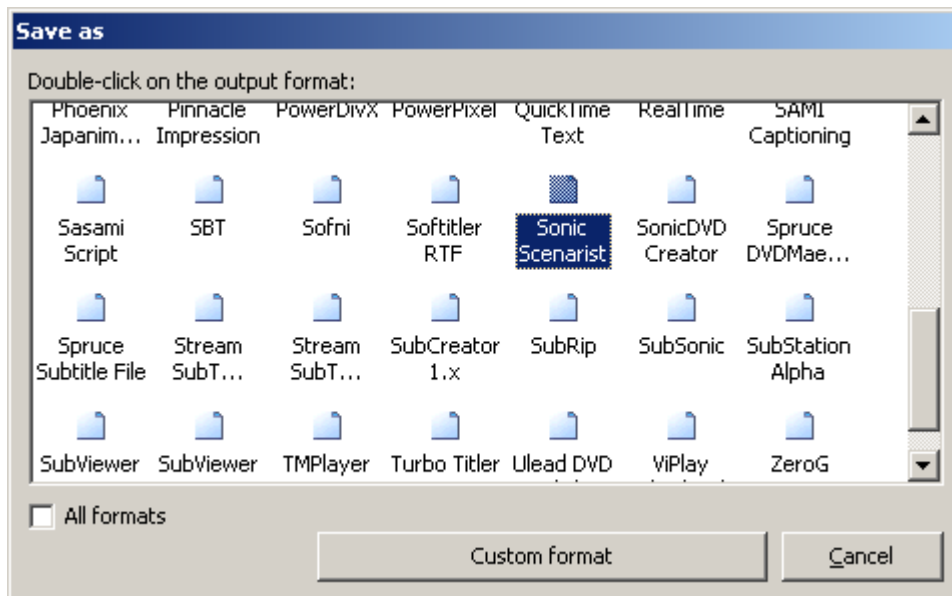
The file loads.
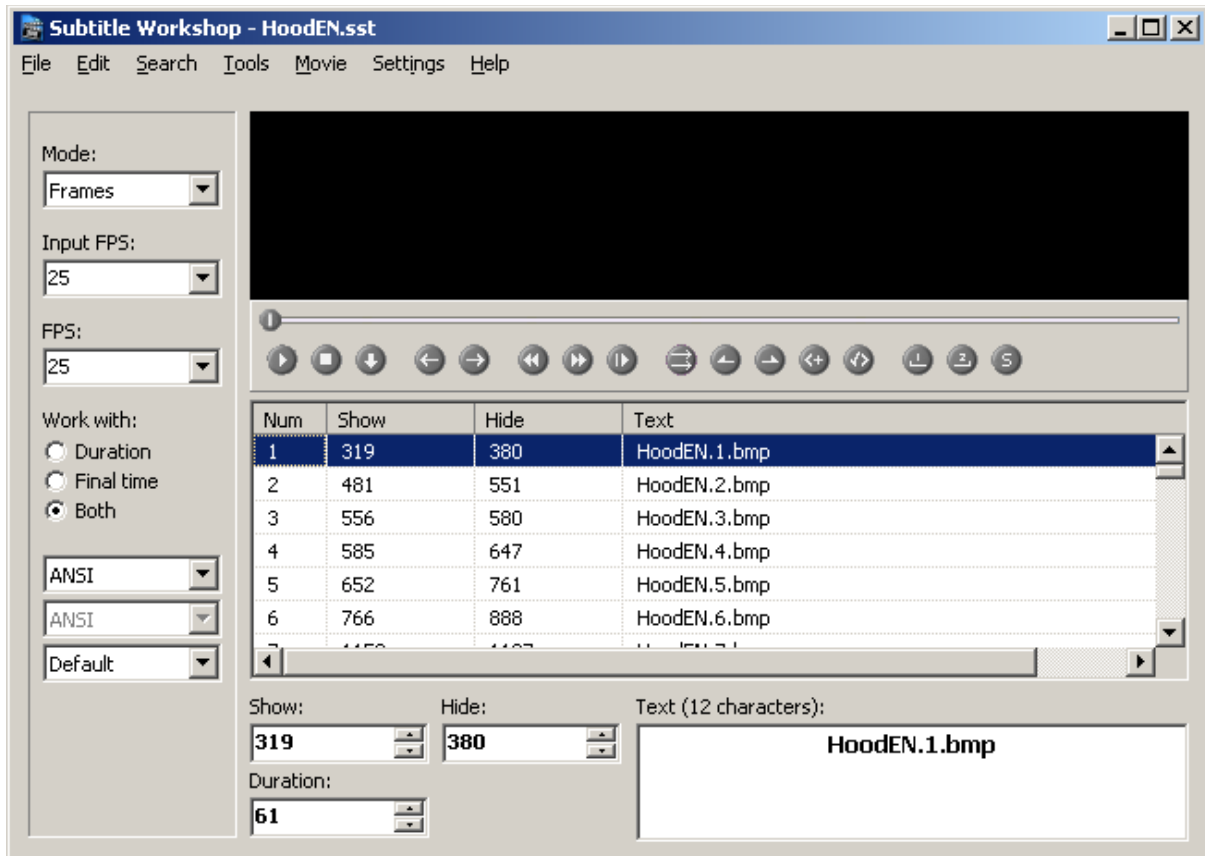
Now simply set the **FPS** field to **23.976**. You'll see the numbers in the middle change instantly.

And presto, done! Now save the new file by going to the **File** menu and selecting **Save as**. A new window pops up showing all the possible formats you can save as. Double-click **Sonic Scenarist**.

Save with a different filename than the original file, so you still have it if needed. I usually add the tag **–NTSC** to show it is the converted file. Click **Save** to save.
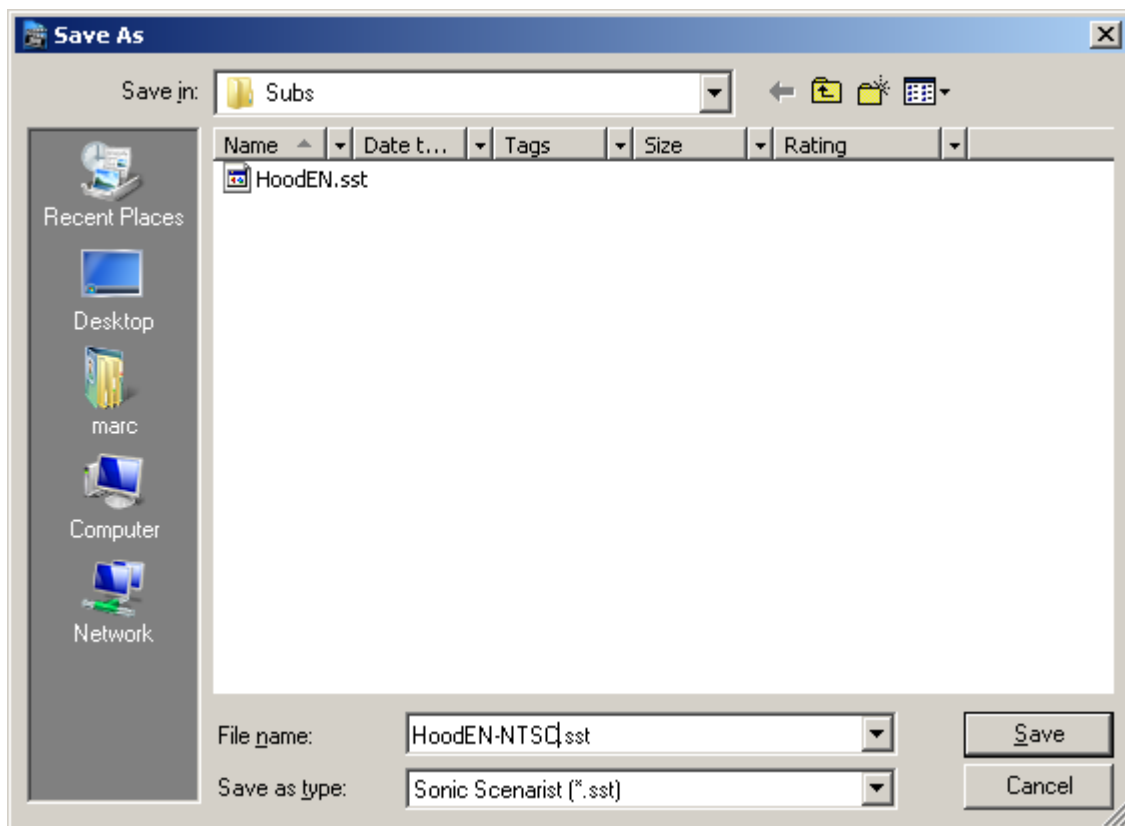
You can now close Subtitle Workshop.
Let's take a look at the new converted .SST file.

```
st_format       2
Display_Start   non_forced
TV_Type         PAL
Tape_Type       NON_DROP
Pixel_Area      (2 576)
Display_Area    (0 2 719 574)
Color           (9 3 4 3)
Contrast        (15 15 15 0)
E2              (0 0 255 ===)
E1              (255 0 0 ===)
PA              (0 0 0 ===)
BG              (255 255 255 ===)
Directory       .
##################################################
SP_NUMBER   START         END           FILE_NAME
1           00:00:13:07   00:00:15:20   HoodEN.1.bmp
2           00:00:20:01   00:00:22:24   HoodEN.2.bmp
3           00:00:23:05   00:00:24:05   HoodEN.3.bmp
4           00:00:24:10   00:00:26:24   HoodEN.4.bmp
5           00:00:27:05   00:00:31:18   HoodEN.5.bmp
etc.
```

You can see right away the times have changed compared to the original file. The current file will not yet work in Composer so we will have to make some changes. These two lines can be deleted:

```
Color           (9 3 4 3)
Contrast        (15 15 15 0)
```

Then above the **###** line make the following other changes:
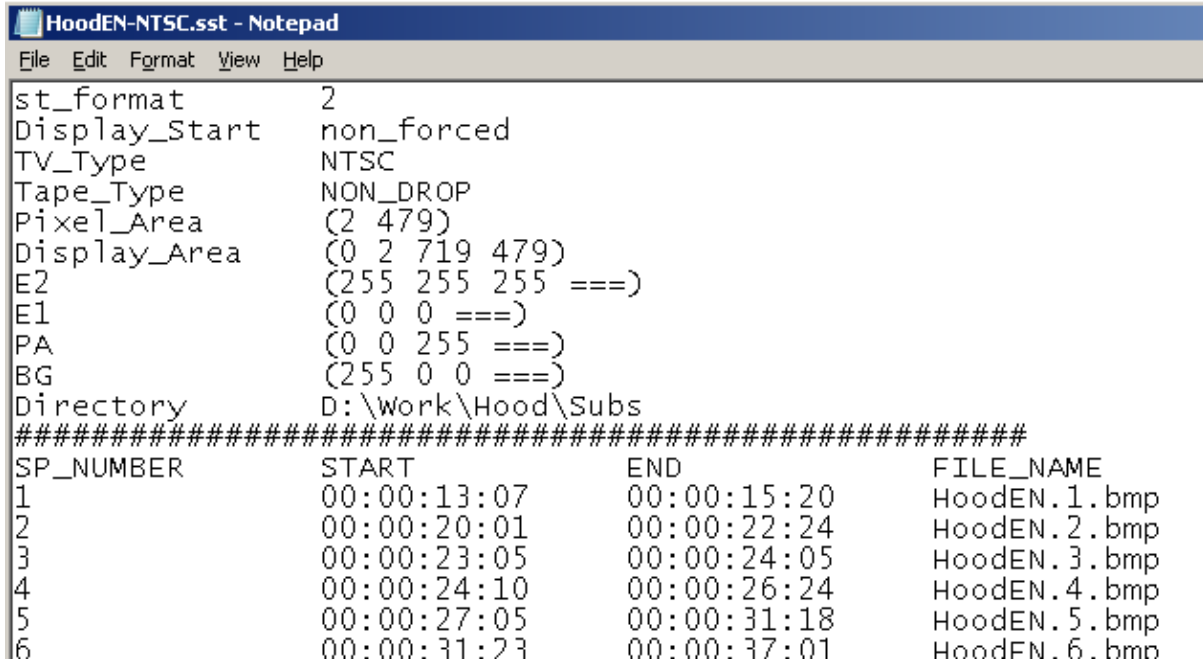
```
st_format       2
Display_Start   non_forced
TV_Type         NTSC
Tape_Type       NON_DROP
Pixel_Area      (2 479)
Display_Area    (0 2 719 479)
E2              (255 255 255 ===)
E1              (0 0 0 ===)
PA              (0 0 255 ===)
BG              (255 0 0 ===)
Directory       D:\Work\Hood\Subs
```

Actual changes in **bold**.

So after these changes it should look like this:

Directory should always point to the directory where your subtitle image files are located.
The only other fields that might occasionally change are **E2**, **E1**, **PA** and **BG**. These fields determine the subtitle colors. See another chapter for clarification of these. The rest of the fields I will not explain as they will never change. Just keep them like above.

There's one thing left that we still need to do in this file... change the filenames under the **###** line from bmp to tif, as we already converted the actual image files to TIF and deleted the BMP files. We can do this by going to the **Edit** menu and selecting **Replace...**

A small window pops up. Fill out the fields like this and then click Replace all.

Once this is done, go to the **File** menu and select **Save** to save the updated SST file.
The subtitles are now ready for use in Composer.

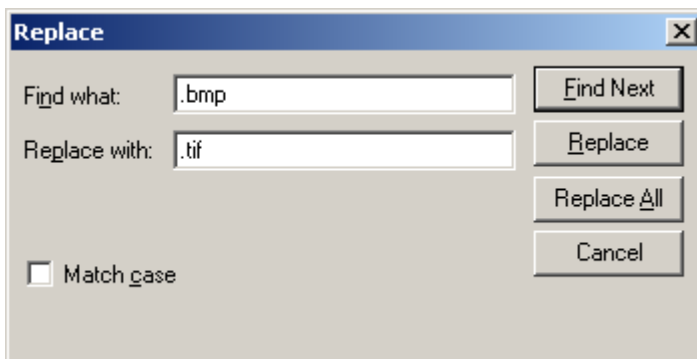The final file will look like this.

```
HoodEN-NTSC.sst - Notepad
File  Edit  Format  View  Help

st_format        2
Display_Start    non_forced
TV_Type          NTSC
Tape_Type        NON_DROP
Pixel_Area       (2 479)
Display_Area     (0 2 719 479)
E2               (255 255 255 ===)
E1               (0 0 0 ===)
PA               (0 0 255 ===)
BG               (255 0 0 ===)
Directory        D:\Work\Hood\Subs
############################################################
SP_NUMBER        START          END            FILE_NAME
1                00:00:13:07    00:00:15:20    HoodEN.1.tif
2                00:00:20:01    00:00:22:24    HoodEN.2.tif
3                00:00:23:05    00:00:24:05    HoodEN.3.tif
4                00:00:24:10    00:00:26:24    HoodEN.4.tif
5                00:00:27:05    00:00:31:18    HoodEN.5.tif
6                00:00:31:23    00:00:37:01    HoodEN.6.tif
7                00:00:48:08    00:00:49:22    HoodEN.7.tif
8                00:00:52:18    00:00:54:23    HoodEN.8.tif
9                00:00:57:20    00:00:59:01    HoodEN.9.tif
10               00:00:59:06    00:01:02:10    HoodEN.10.tif
11               00:01:02:15    00:01:04:01    HoodEN.11.tif
12               00:01:04:06    00:01:07:05    HoodEN.12.tif
13               00:01:07:10    00:01:09:19    HoodEN.13.tif
14               00:01:09:24    00:01:13:18    HoodEN.14.tif
15               00:01:13:23    00:01:16:18    HoodEN.15.tif
16               00:01:16:23    00:01:20:03    HoodEN.16.tif
17               00:01:20:08    00:01:23:13    HoodEN.17.tif
18               00:01:23:18    00:01:27:20    HoodEN.18.tif
19               00:01:28:01    00:01:31:13    HoodEN.19.tif
```

Repeat above steps for any other subtitles that you want to add to the movie.